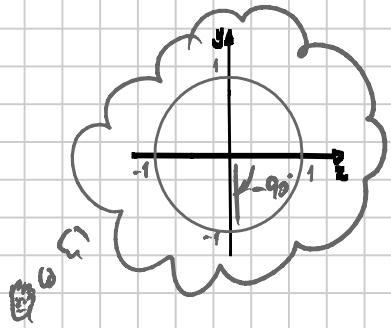
C2 Exercise 8B (new trig values from old)

Note Title 28/04/2013

1 Write down (always a hint it ought to be easy) the values of:

a $\sin(-90°) = -1$

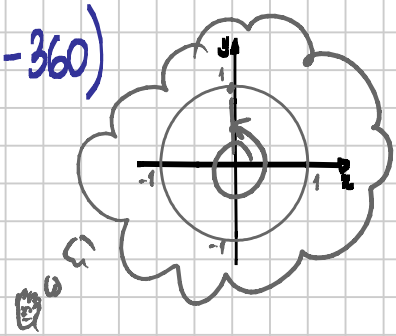


You don't need to draw this if you can visualise it in your mind.

b $\sin 450° = \sin(450 - 360)$

$= \sin 90$

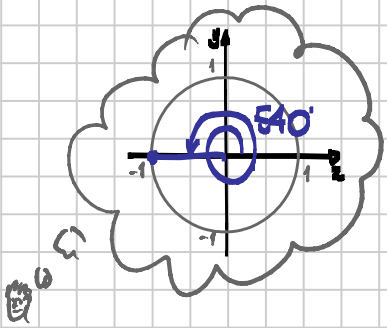
$= 1$



c $\sin 540° = \sin(540 - 360)$

$= \sin 180$

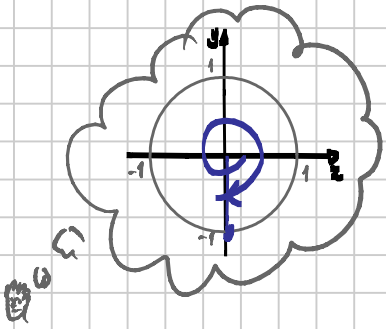
$= 0$



d $\sin(-450)° = \sin(-450 + 360)$

$= \sin(-90)$

$= -1$

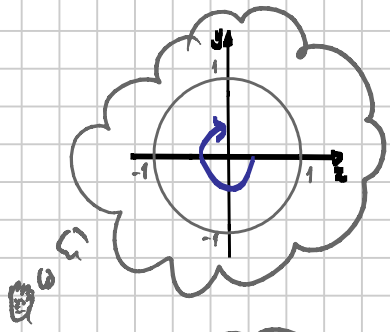


e $\cos(-180)° = \cos 180°$

$= -1$

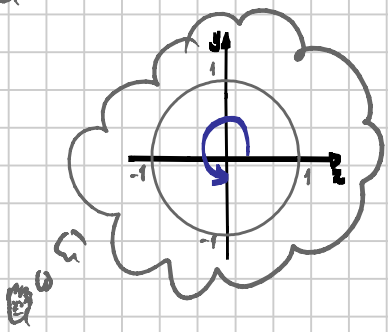
f $\cos(-270)^\circ = \cos 90$

$= 0$



g $\cos 270^\circ = \cos(-90)$

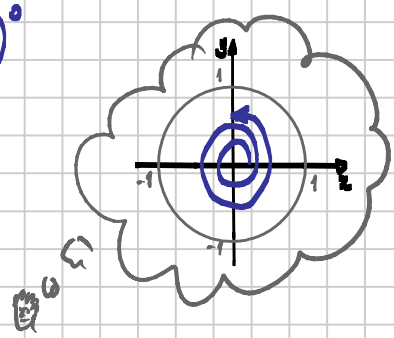
$= 0$



h $\cos 810^\circ = \cos(810 - 2\times360)^\circ$

$= \cos 90^\circ$

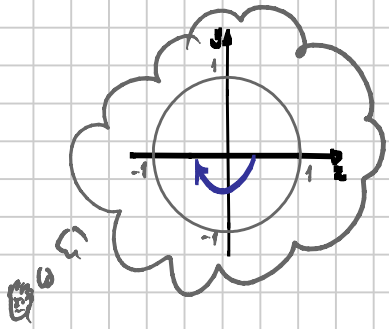
$= 0$



i $\tan 360^\circ = \tan 0^\circ$

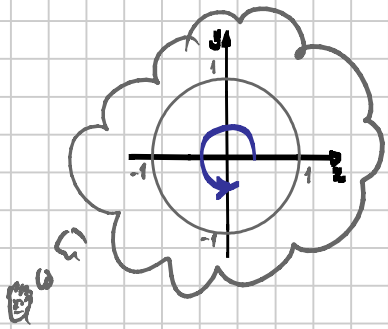
$= 0$

j $\tan(-180)^\circ = 0$



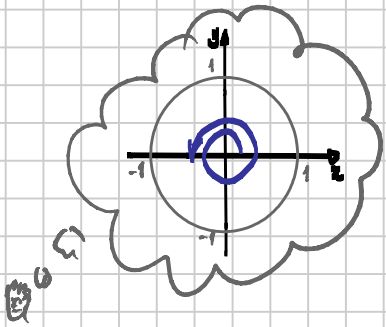
2 Write down the values of the following, where the angles are in radians

a $\sin \frac{3\pi}{2} = \sin\left(\frac{-\pi}{2}\right) = -1$

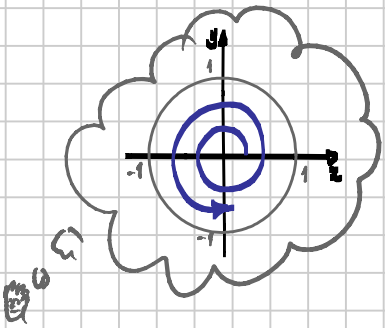


b $\sin\left(-\frac{\pi}{2}\right) = -1$ (see above)

c $\sin 3\pi = \sin(3\pi - 2\pi) = \sin\pi = 0$

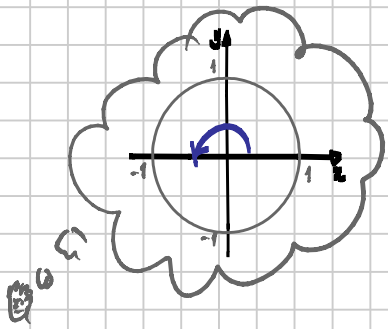


d $\sin \frac{7\pi}{2} = \sin\left(2\pi + \frac{3\pi}{2}\right) = \sin\left(\frac{3\pi}{2}\right) = -1$

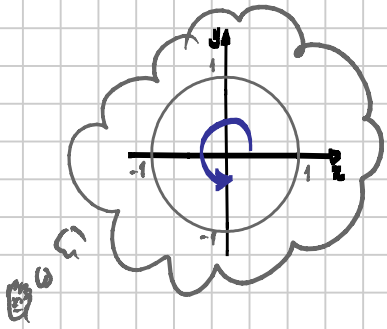


e $\cos 0 = 1$

2f $\cos \pi = -1$

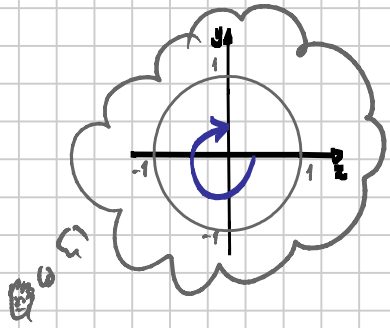


g $\cos \frac{3\pi}{2} = 0$



h $\cos\left(\frac{-3\pi}{2}\right) = \cos \frac{\pi}{2}$

$= 0$



i $\tan \pi = 0$

j $\tan(-2\pi) = \tan 0$

$= 0$